

2. (Amended) The silica microstructure fabrication method of claim 1, wherein the etch stop layer deposition step comprises the steps of:

depositing a photoresist layer on the first silica layer;

patterning the photoresist layer according to the shape of the etching area;

forming the etch stop layer using the surfaces of the photoresist layer and the first silica layer; and

removing the photoresist layer using a photoresist remover.

9. (Amended) The silica microstructure fabrication method of Claim 7, wherein the second silica layer is dry-etched according to a predetermined vertical profile.

10. (Amended) A silica microstructure which is produced by the steps of:
depositing an etch stop layer on an etching area of a portion of a first silica layer formed on a semiconductor substrate;

forming a second silica layer on the surfaces of the etch stop layer and the first silica layer;

forming a mask patterned according to the shape of the etching area on the surface of the second silica layer;

removing the second silica layer from the etching area using the mask by dry etching; and

removing the etch stop layer by wet etching.

11. (Amended) A silica microstructure according Claim 10, wherein the etch stop layer deposition step comprises the steps of:

- depositing a photoresist layer on the first silica layer;
- patterning the photoresist layer according to the shape of the etching area;
- forming the etch stop layer on the surfaces of the photoresist layer and the first silica layer; and
- removing the photoresist layer using a photoresist remover.

12. (Amended) A silica microstructure according Claim 10, wherein the etch stop layer deposition step comprises the steps of:

- forming the etch stop layer on the first silica layer;
- forming a photoresist layer on the etch stop layer;
- patterning the photoresist layer according to the shape of the etching area; and
- dry-etching the etch stop layer using the photoresist pattern.

13. (Amended) A silica microstructure according Claim 10, wherein the etch stop layer is formed of one of metal and ceramic.

14. (Amended) A silica microstructure according Claim 10, wherein the mask formation step comprises the steps of:

- forming a metal layer on the second silica layer by sputtering;
- forming a photoresist layer on the metal layer;
- patterning the photoresist layer according to the shape of the etching area; and
- etching the metal layer using the photoresist pattern.

15. (Amended) A silica microstructure according to Claim 10, wherein the first and second silica layers are formed by deposition.

16. (Amended) A silica microstructure according to Claim 10, wherein the second silica layer is dry-etched by RIE (Reactive Ion Etching).

17. (Amended) A silica microstructure according to Claim 10, wherein the second silica layer is removed according to a predetermined vertical profile.

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18. (Amended) A silica microstructure according to the process recited in Claim 16, wherein the second silica layer is dry-etched by RIE according to a predetermined vertical profile.

19. (Amended) A silica microstructure according to Claim 16, wherein said microstructure comprises a planar light wave circuit (PLC).

20. (Amended) A silica microstructure according to Claim 17, wherein said microstructure comprises one of a planara lightwave circuit and a microelectromechanical (MEMS) device.

IN THE CLAIMS

Please cancel claims 8 and 18 without prejudice and amend the claims as follows:

1. (Amended) A silica microstructure fabrication method comprising the steps of:
 - ~~partially~~ depositing an etch stop layer on an etching area of a portion of a first silica layer formed on a semiconductor substrate;
 - forming a second silica layer on the surfaces of the etch stop layer and the first silica layer;
 - forming a mask patterned according to the shape of the etching area on the surface of the second silica layer;
 - removing the second silica layer from the etching area using the mask by dry etching; and
 - removing the etch stop layer by wet etching.

2. (Amended) The silica microstructure fabrication method of claim 1, wherein the etch stop layer deposition step comprises the steps of:
 - depositing a photoresist layer on the first silica layer;
 - patterning the photoresist layer according to the shape of the etching area;
 - forming the etch stop layer ~~on~~ using the surfaces of the photoresist layer and the first silica layer; and
 - removing the photoresist layer using a photoresist remover.

9. (Amended) The silica microstructure fabrication method of Claim 7, wherein the second silica layer is ~~removed~~ dry-etched according to a predetermined vertical profile.

10. (Amended) A silica microstructure ~~according to the process recited in Claim 1,~~ which is produced by the steps of:

depositing an etch stop layer on an etching area of a portion of a first silica layer formed on a semiconductor substrate;

forming a second silica layer on the surfaces of the etch stop layer and the first silica layer;

forming a mask patterned according to the shape of the etching area on the surface of the second silica layer;

removing the second silica layer from the etching area using the mask by dry etching; and

removing the etch stop layer by wet etching.

11. (Amended) A silica microstructure ~~according to the process recited in Claim 10,~~ wherein the etch stop layer deposition step comprises the steps of:

depositing a photoresist layer on the first silica layer;

patterning the photoresist layer according to the shape of the etching area;

forming the etch stop layer on the surfaces of the photoresist layer and the first silica layer; and

removing the photoresist layer using a photoresist remover. 2.

12. (Amended) A silica microstructure ~~according to the process recited in Claim 103,~~

wherein the etch stop layer deposition step comprises the steps of:

- _____ forming the etch stop layer on the first silica layer;
- _____ forming a photoresist layer on the etch stop layer;
- _____ patterning the photoresist layer according to the shape of the etching area; and
- _____ dry-etching the etch stop layer using the photoresist pattern.

13. (Amended) A silica microstructure according to the process recited in Claim 104,
wherein the etch stop layer is formed of one of metal and ceramic.

14. (Amended) A silica microstructure according to the process recited in Claim 105,
wherein the mask formation step comprises the steps of:

- _____ forming a metal layer on the second silica layer by sputtering;
- _____ forming a photoresist layer on the metal layer;
- _____ patterning the photoresist layer according to the shape of the etching area; and
- _____ etching the metal layer using the photoresist pattern.

15. (Amended) A silica microstructure according to the process recited in Claim 10,
wherein the first and second silica layers are formed by deposition⁶.

16. (Amended) A silica microstructure according to the process recited in Claim 10,
wherein the second silica layer is dry-etched by RIE (Reactive Ion Etching).⁷

17. (Amended) A silica microstructure according to the process recited in Claim 810,
wherein the second silica layer is removed according to a predetermined vertical profile.

18. (Amended) A silica microstructure according to the process recited in Claim 916,
wherein the second silica layer is dry-etched by RIE according to a predetermined vertical
profile.

19. (Amended) A silica microstructure according to ~~the process recited in Claim 167~~,
wherein said microstructure comprises a planar light wave circuit (PLC).

20. (Amended) A silica microstructure according to ~~the process recited in Claim 178~~,
wherein said microstructure comprises one of a planar lightwave circuit and a micro-
electromechanical (MEMS) device.